

CLUSIA NIAMBIENSIS (CLUSIACEAE),
A NEW SPECIES FROM THE CHOCÓ FLORISTIC
PROVINCE OF COLOMBIA AND ECUADOR

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ABSTRACT

Documentation of the flora of the Natural Reserve Río Nambí has resulted in the discovery of a heretofore undescribed species, *Clusia niambiensis*. The species is described, illustrated and its salient morphological features are elucidated. While its vegetative morphology is reminiscent of both *Clusia laurifolia* and *C. venusta*, the free, numerous, and subulate stamens with a central mass of staminodia producing a waxy resin indicate it is a member of section *Chlamydoclusia* rather than section *Retinostemon*, where the aforementioned congeners belong. At present, the relationships of *Clusia niambiensis* within section *Chlamydoclusia*, are unknown. It is anticipated that continuing studies of the genus, leading to a treatment of the family for *Flora de Colombia*, will resolve this problem.

RESUMEN

Al documentar la flora de la Reserva Natural Río Nambí, se encontró una nueva especie, *Clusia niambiensis*. Se describe, se ilustra y se discuten sus caracteres principales y sobresalientes. Mientras que sus caracteres vegetativos son muy semejantes a los de *Clusia laurifolia* y *C. venusta*, sus estambres libres, numerosos y subulados indican claramente que *C. niambiensis* pertenece a la sección *Chlamydoclusia* y no a la sección *Retinostemon*, donde se ubican las otras especies congénicas susodichas. En este momento, no se sabe exactamente la ubicación taxonómica de *Clusia niambiensis* dentro de la sección *Chlamydoclusia*. Esperamos que a través de los estudios en proceso para el tratamiento taxonómico de la familia para Flora de Colombia, se pueda resolver este problema.

Recent exploration of the Reserva Natural Río Nambí, located on the

western slopes of the Western Cordillera of the Colombian Andes, has resulted in the discovery of this spectacular new species, described herewith.

Clusia (§ **Chlamydoclusia**) **niambiensis**, Pipoly, Cogollo et González, sp. nov. (Fig. 1). TYPE: COLOMBIA. NARIÑO: Mpio. Barbaças; Corregimientos Ortiz y Zamora; Vereda El Barro; Reserva Natural Río Nímbí, ca. 5 km al W de Altaquer, Faldas Occidentales de la Cordillera Occidental, 01° 15' N, 78° 08' W; 1,450–1,500 m, 8 Sep 1997 (stam. fl.), J. Pipoly, A. Cogollo, M. López & M. Rodríguez 21489 (HOLOTYPE: PSO; ISOTYPES: BRIT, COL, FMB, JAUM, K, MO).

Quoad lamina bullata nervatiosque brochidodromos, resinam albam, *C. laurifolium* arcte similans sed ab ea petiolis profunde canaliculatisque marginatis (non aliquantam canaliculatis), ad bases laminas acutas decurrentesque (non obtusis haud decurrentes), denique fructibus ovoideis vel ellipsoideis (non subglobosis) praeclare distat. Propter stamina inter se libera subulataque centraliter resinifera, stigmata conniventaque sectio *Chlamydoclusia* pertinet, inter species aliis petiolis profunde canaliculatis marginatisque, laminis bullatis nervatiosque brochidodromis, fructibus longitudinaliter costatis statim distinguitur.

Glabrous, dioecious, *shrubs* or *treelets* to 2–3(–5) m tall, growth dynamics corresponding to Scarrone's Model; latex white. *Branchlets* terete, appearing tetragonal when dried, 8–10(–15) mm diam., the bark reddish-brown, exfoliating transversely in the upper nodes, appearing furfuraceous at times. *Leaves* decussate; blades chartaceous, obovate, (19–)27–38.5 cm long, (14.5–)15.2–23 cm wide, apically rounded to obovate, basally acute, decurrent to the petiole base, bullate, the midrib prominently raised or raised within a depression above, prominently raised below, the secondary veins brochidodromous, 28–46 pairs, ca. 7–10 mm apart, alternating so every other vein has twice the diameter of the others, deeply impressed above, prominently raised below, the submarginal connecting vein ca. 2–4 mm from margin, glabrous above and below, at times when dried with small linear latex canals oxidizing red, the margin scarious, entire; petioles deeply canaliculate and marginate, (1.0–)2.5–3.5 cm long, without adaxial margined pit. *Staminate inflorescence* erect in bud, pendulous at maturity, a compound cyme, 20–25 cm long, 10–20 cm wide; peduncle appearing tetragonal when dried, 10.5–17 cm long, the bark transversely checked and exfoliating; primary inflorescence bract coriaceous, lanceolate, 18–21 mm long, 4–6 mm wide, apically acute, the midrib prominently raised above and below, the margin scarious, entire, glabrous; secondary inflorescence bracts cartilaginous, sub-orbicular, 3.5–4.0 mm long, 3.8–4.2 mm wide, apically broadly rounded, medially carinate, the margin scarious, entire; tertiary and floral bracts as in secondary but smaller acropetally, to the smallest that are rhomboid, 3 mm long and wide, apically acute; bracteoles 2, cartilaginous, ovate, .3.8–4.0 mm long, 2.5–3.0 mm wide, apically rounded, cucullate, the margin hyaline, not scarious, entire; pedicels 1–2.5(–5) mm long. *Staminate flowers* sepals 8, the lower 4 opposite, the upper 4 contorted, coriaceous, acro-

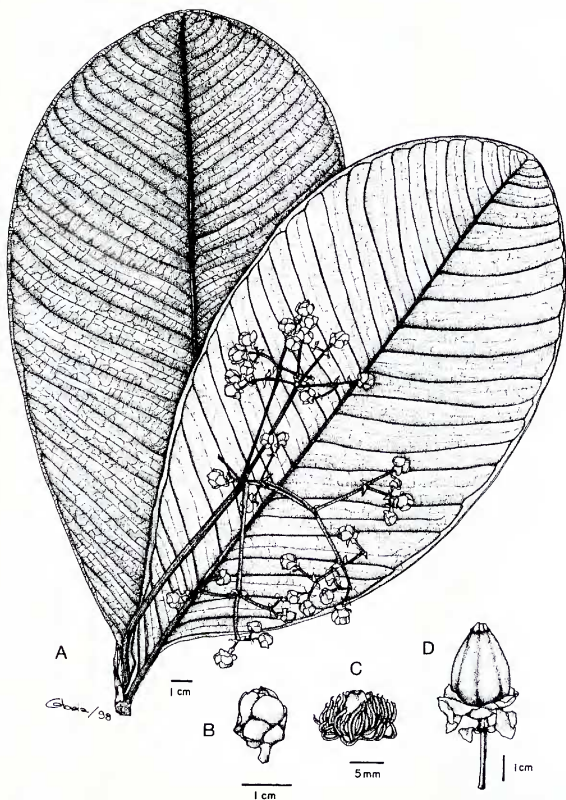


FIG. 1. *Clusia niambiensis* Pipoly, Cogollo & González. A. Habit. B. Opened pistillate flower, showing staminodes and stigmatic area. C. Opened staminate flower, showing stamens and central staminodial mass. D. Fruit, showing costae and mature stigmas. Figs. A–D, drawn from holotype.

petally larger, the lowermost oblate, 4.4–5.5 mm long, 5.5–6.5 mm wide, apically broadly rounded, translucent toward the margins, the linear latex canals black, conspicuous, the margins flat, scarious, irregularly notched, at times also appearing erose; uppermost sepals as in lowermost but oblong, 10–12 mm long, 7.5–8 mm wide, petals 12–16, contorted, membranaceous, oblong to oblanceolate, acropetally larger, the largest 16–19 mm long, 10–12 mm wide, somewhat clawed, some appearing oblanceolate-spathulate, apically broadly rounded to truncate, linear resin canals conspicuous, black, numerous, the margin undulate, somewhat irregular, minutely erose at tip; stamens numerous, linear 4–5 mm long, the filaments free, 2.0–2.2 mm long, the anther sacs linear, 2.0–3.0 mm long, the connective extending above the anthers ca. 0.5 mm long, subulate; central staminodes forming a mass agglutinated by orange waxy resin, the pistillode vestigial or absent. *Pistillate inflorescence* as in staminate but peduncle 7–20 cm long; secondary inflorescence bracts 11–13 mm long, 5.5–6.6 mm wide in lower portion of inflorescence, acropetally smaller to 3 mm long, 3 mm wide; pedicels accrescent to 2.8 cm in fruit. *Pistillate flowers* as in staminate but staminodes 4–5 mm long, devoid of pollen, the connectives 0.6–1 mm long, pistil ovoid, 7–8 mm long, 8–9 mm wide, carpels and stigmas 8, cuneiform at maturity, convex, 4.5–5.2 mm long, 2.0–2.5 mm wide. *Fruit* ovoid to oblong, 3.0–6.5 cm long, (1.8–)2.7–2.9 cm diam., 7-ribbed, the fruit grenadine, the ribs white when fresh.

Distribution.—Endemic to the Chocó Floristic Province of Colombia and adjacent Ecuador, (17–)650–1,650 m elevation.

Ecology and conservation status.—*Clusia niambiensis* occurs in premontane and montane pluvial forest, where it is an understory treelet. The populations of this species are composed of approximately 20 individuals per hectare.

Etymology.—*Clusia niambiensis* is named for the Reserva Natural Río Nambí, a private Wildlife Reserve in the state of Nariño, Colombia, operated by FELCA, the Ecological Foundation of the Hummingbirds of Altaquer, where the largest populations of this species have been found.

Local names and uses.—"Guandera" (Colombia & Ecuador, Spanish).

PARATYPES: COLOMBIA. NARIÑO: Mpio. Barbacoas; Corregimientos Ortiz y Zamora; Vereda El Barro; Reserva Natural Río Nambí, ca. 5 km al W de Altaquer, Faldas Occidentales de la Cordillera Occidental, 01° 15' N, 78° 08' W; 1,450–1,500 m, 1 Sep 1997 (pist. fl), J. Pipoly, A. Cogollo et al. 21044 (BRIT, JAUM, PSO), 8 Sep 1997 (stam. fl), J. Pipoly, A. Cogollo, M. López & M. Rodríguez 21490 (BRIT, COL, JAUM, PSO), 1,250–1,350 m, 10 Sep 1997 (stam. fl), J. Pipoly, A. Cogollo et al. 21655 (BRIT, JAUM, PSO); Resguardo de El Sábalo, Río Cangapi, 01° 17' N, 78° 14' W, 580 m, 17 Aug 1995 (fr), B. Ramírez et al. 8049 (BRIT, PSO); Corregimiento El Diviso, near El Diviso, 25 Nov 1979 (pist. fl), O. de Benavides 2149 (PSO); Corregimiento de Junín, 1,200 m, 7 Oct 1988 (pist. fl bud), O. de Benavides 10246 (PSO); Locality between Junín and Diviso, 1,700 m, 15 Sep 1978

(pist. fl), *O. de Benavides* 1565 (PSO); Espino to Tumaco Road, 84 km W of Espino, on pass between Altaquer and Junín, 01° 15' N, 78° 09' W, 1,300 m, 18 Nov 1986 (fr), *B. Hammel & R. Bernal* 15751 (COL, HUA, MO, PSO); El Espino to Tumaco Road, 30 km W of Ricaurte, 10 km W of Altaquer, El Mirador, Finca Sta. Lucía, in forest N of Río Nambí, 01° 17' N, 78° 07' W, 950 m, *B. Hammel & A. Narváez* 17178 (MO, PSO); Mpio. Ricaurte, Hacienda La Planada, 1,850 m, 26 Nov 1981 (fr), *O. de Benavides* 3338 (PSO); Resguardo Indígena Nulpe Medio, Andalucía- Nulpe Medio, 01° 05' N, 78° 14' W 01° 18' N, 77° 54' W, 800–1,100 m, 5 Jan 1996 (pist. fl), *B. Ramírez et al.* 9364 (BRIT, PSO); El Diviso, highway to Tumaco, 790 m, 20 Feb 1968 (fr), *G. López* 261 (PSO); Mpio. de Tumaco, 2 km from Tangareal, banks of Río Mira, 17 m, 8 Apr 1978 (pist. fl), *O. de Benavides* 1383 (PSO). ECUADOR. CARCHI: Cantón Tulcán, Reserva Indígena Awá, Gualpi Alto Community, Parroquia Chicál, 01° 02' N, 78° 14' W, 1,800 m, 15–28 Jul 1991 (stam. fl bud), *D. Rubio et al.* 1589 (BRIT, MO, QCNE), (fr), *D. Rubio et al.* 1590 (BRIT, MO, QCNE). Los Ríos: Cantón Quevedo, Parroquia Centinela-La Pirámide, vía Sto. Dominto de los Colorados-Quevedo, entrando por Patricia Pilar, km 41, 01° 40' S, 79° 20' W, 650 m, 25 Feb 1992 (fr), *C. Quelal & G. Tipaz* 160 (BRIT, MO, QCNE). PICHINCHA: Quito-Puerto Quito Road, 10 km N of main road, Km 113, 00° 05' N, 79° 02' W, Reserva Forestal ENDESA, Río Silancha, Cooperación Forestal Juan Manuel Durini, voucher for NCI, 650–700 m, 17 May 1987 (pist. fl), *P. Acevedo R., D. Daly & M. Ríos* 1695 (BRIT, NY, QCA, US).

Clusia niambiensis is infrequent in the western slopes of the Cordillera Occidental of Colombia and adjacent Ecuador, where it has been frequently confused with its congeners, *Clusia laurifolia* Pl. & Tr., and *Clusia venusta* Little, all of them having bullate leaves with obviously brochidodromous venation. However, the free stamens with subulate apices, and resiniferous zone in the center of the androecium indicate it is a member of section *Chlamydoclusia*, and not section *Retinostemon*, where the other two taxa belong. At this time, it is not known which member of subgenus *Clusia* is its closest relative.

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